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a resilient body [element] interposed between the [concaval-convex] supports[, and thereafter affixing the concaval-convex supports to the adjacent bone].

9. (Amended Thrice) A method of endoprosthetic discectomy surgery comprising:
[the steps of]

receiving information about the size, shape, and nature of a patient's involved [and proximate normal] natural spinal vertebral bodies and natural spinal vertebral discs from [known] imaging devices, [thereafter constructing at least vertebral disc endoprosthesis comprising a resilient disc body and concaval-convex elements at least partly surrounding the resilient disc body,]

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removing at least the involved, damaged natural spinal [discs] disc material from the patient's spine,

forming dome-shaped, concave surfaces in adjacent spinal [bone] vertebral bodies, and [thereafter]

implanting [the vertebral] into the patient's spine, an intervertebral disc endoprosthesis comprising a resilient disc body and concaval-convex elements that at least partly surround and are capable of movement relative to the resilient disc body in the patient's spine.

12. (Amended) A method of surgery comprising:
forming partially hemispherical surfaces in endplates of confronting vertebral bodies,
inserting between the formed partially hemispherical surfaces an intervertebral disc endoprosthesis, comprising:

confronting concaval-convex supports, each support having an exterior convex surface adapted to mate with one of the formed partially hemispherical surfaces, and

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a resilient body interposed between the concaval-convex supports such that the supports are capable of movement relative to the resilient body element after the endoprosthesis has been inserted between the formed partially hemispherical surfaces;
prior to forming the partially hemispherical surfaces in the vertebral body endplates,
implanting at least one anchor into a hole having a predetermined position in an anterior surface of at least one adjacent vertebral body; and

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affixing a bone surface milling mechanism to the at least one anchor.

- ✓ 17. (Amended) A method of surgery comprising:
forming concave surfaces in the endplates of confronting vertebral bodies, and
inserting between the formed concave surfaces an intervertebral disc endoprosthesis,
including:

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confronting concaval-convex supports, each support having an exterior convex
surface adapted to mate with one of the formed concave surfaces,
a resilient body interposed between the concaval-convex supports, and
a fluid-tight seal member surrounding the resilient body, wherein the seal member
comprises a flexible polymer substantially impervious to the passage of any fluid.

- ✓ 18. (Amended) A method of surgery comprising:
forming concave surfaces in the endplates of confronting vertebral bodies, and
inserting between the formed concave surfaces an intervertebral disc endoprosthesis,
including:

confronting concaval-convex supports, each support having an exterior convex
surface adapted to mate with one of the formed concave surfaces,
a resilient body interposed between the concaval-convex supports, and
a fluid-tight seal member surrounding the resilient body, wherein the seal member
is affixed to the concaval-convex supports by a groove encircling the periphery of each
support and a retaining band to retain the edge of the seal member in the groove.

Please add the following new claims:

22. The method of claim 9 wherein the formed concave surfaces are dome-shaped.

23. The method of claim 4 wherein the formed concave surfaces are concave along at
least two different axis.

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24. The method of claim 9 wherein the formed dome-shaped, concave surfaces have a

non-circular cross-section.

25. A method of inserting a prosthesis in a disc space between two adjacent vertebral bodies, comprising:

forming at least a portion of a hemispherical cavity in an endplate of one of the vertebral bodies, the endplate have a remaining surface surrounding the cavity, and

inserting an endoprosthesis into the disc space and the cavity, the endoprosthesis including at least one support having an exterior convex surface adapted to mate with the cavity, and a body interposed between the at least one support and the second vertebral body, where the at least one support is movable relative to the body.

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